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June 21, 2016

VIA ELECTRONIC DELIVERY

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street S.W.
Washington, DC 20554

Re: Notice of Ex Parte Presentation
GN Docket No. 14-177; IB Docket No. 15-256; RM-11664; WT Docket No. 10-112; IB Docket No. 97-95

Dear Ms. Dortch:

On Friday, June 17, 2016, Nextlink Wireless, LLC ("Nextlink"), an operating affiliate of XO Communications, LLC ("XO"), met with representatives from the Wireless Telecommunications Bureau ("WTB") of the Federal Communications Commission ("FCC" or "Commission") to discuss the Commission's *Notice of Proposed Rulemaking* in the above-referenced proceedings.[1] Attending the meeting on behalf of Nextlink/XO were: Lisa Youngers, Vice President and Assistant General Counsel – Federal Affairs; Patrick Thompson, Director, Legislative Affairs; Eric Miller, Senior Wireless Strategist; Michele Farquhar and Tom Peters of Hogan Lovells US LLP, counsel and advisor to Nextlink/XO, respectively; and Mike Lasky of Widelity, Inc., consultant to Nextlink/XO. Attending the meeting on behalf of WTB were: Jon Wilkins, Simon Banyai, Stephen Buenzow (by phone), Michael Ha, Tim Hilfiger (by phone), Paul Powell, Brian Regan, John Schauble, Catherine Schroeder and Blaise Scinto.

Challenges and Costs of County-Based Licensing

At the meeting, Nextlink discussed the benefits of maintaining the current Basic Trading Area ("BTA") geographic licensing scheme for the 28 GHz band, in contrast to the financial and technical burdens of issuing new Upper Microwave Flexible Use ("UMFU") licenses on a county-by-county basis. A large majority of commenters opposed the Commission's novel, never-before-tested

[1] *See Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, et al.*, Notice of Proposed Rulemaking, 30 FCC Rcd 11878 (2015) ("*NPRM*").

county-based licensing scheme for 28 GHz UMFU licenses.[2] Nextlink explained that it does not support county-based licensing because adopting extremely small geographic license areas would increase the amount of interference coordination and lease negotiations that operators will need to engage in as they deploy services over the newly licensed spectrum, adding substantially to the cost of building out these licenses and presenting other financial and technical challenges.[3]

As an initial matter, Nextlink currently holds 93 Local Multipoint Distribution Service ("LMDS") licenses, but under the new proposal would hold 767 county-based licenses for the A1 band alone.[4] Nextlink explained how the population densities of counties within the same BTA can vary widely and how this, along with jurisdictional issues in some BTAs, will complicate a county-based licensing scheme. As the attached presentation slides show, Inyo County, California has a population density of 1.8 people per square mile and is contained within the same BTA as Los Angeles County, one of the most densely populated counties in the country.[5] The New York BTA, meanwhile, is comprised of numerous counties spread across several states.[6] And of the 35 counties within the Lexington, Kentucky BTA, about one quarter include significant areas of the Daniel Boone National Forest, and at least one county is entirely within that forest.[7] Each of these BTAs, spread across different geographic parts of the country, would present their own unique problems if the FCC adopted county-based licenses for the 28 GHz band.

Nextlink chronicled the specific financial challenges that county-based licensing would create for an operator in its position to meet existing substantial service requirements for each individual

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[2] *See, e.g.*, Reply Comments of Intel Corp., GN Docket No. 14-177, *et al*. at 2 (filed Feb. 26, 2016) ("While many of the Commission's primary proposals were supported by a majority of commenters, a small minority of those proposals received substantial opposition. These include . . . the proposal for county-based license areas . . . ."); Reply Comments of Nokia, GN Docket No. 14-177, *et al*. at 3 (filed Feb. 26, 2016) ("Commenters widely agree that the geographic licensing area should be larger than county-level."); Reply Comments of Samsung Electronics America, Inc. and Samsung Research America, GN Docket No. 14-177, *et al*. at 10 (filed Feb. 26, 2016) ("The majority of commenters opposed the Commission's proposed county-based licensing scheme for the 28 GHz, 37 GHz, and 39 GHz bands."); Reply Comments of Straight Path Communications Inc., GN Docket No. 14-177, *et al*. at 6 (filed Feb. 26, 2016) ("Commenters in this proceeding almost unanimously oppose the Commission's proposed county-based licensing scheme for 28 GHz and 39 GHz bands."); Reply Comments of T-Mobile USA, Inc., GN Docket No. 14-177, *et al*. at 15 (filed Feb. 26, 2016) ("T-Mobile agrees with Verizon that county-level licenses could prove administratively complex and burdensome.").

[3] *See* Reply Comments of XO Communications, LLC, GN Docket No. 14-177, *et al*. at 8-9 (filed Feb. 26, 2016); *see also* Reply Comments of The Wireless Internet Service Providers Association, GN Docket No. 14-177, *et al*. at 3-4 (filed Feb. 26, 2016) ("[I]f an LMDS license were subdivided into eight separate county-wide licenses, the licensee would need to meet regulatory obligations, file renewal applications and pay regulatory fees for each of the eight licenses.").

[4] If the Commission includes the A2 and A3 bands and the B block in its flexible use band plan for 28 GHz, the number of Nextlink's county-based licenses would increase substantially.

[5] *See* attach. at 2.

[6] *Id.* at 3.

[7] *Id.* at 4.

county. Nextlink would incur significant upfront costs for each new site Nextlink deployed within a county. These costs include the purchase of radios, backhaul, telemetry routers, as well as real estate, permitting and construction expenses – potentially totaling in the tens of millions of dollars. Beyond these initial deployment costs, Nextlink would also need to pay substantial recurring operational expenses such as monthly site maintenance and connectivity, warehousing costs for spare equipment, site audit costs and location rents. In addition, Nextlink would incur sizable administrative costs such as annual licensing and other regulatory fees payable on a license-by-license basis and legal fees for re-filing modified leases on a county basis.

In addition to the financial hurdles, issuing UMFU licenses based on counties could present several technical difficulties. Nextlink sites a significant amount of its radio equipment on taller buildings that are wired with fiber provided on reasonable terms and conditions—facilities that are not available in many of the more sparsely populated counties within Nextlink's existing license areas. In these counties, licensees will face significant challenges to deploying substantial service, irrespective of costs, and there may be inadequate population to support ongoing operations. Licensees are also likely to face challenges deploying qualified construction and maintenance crews to counties that are hours away from the major metropolitan hub. Due to these issues, rural county UMFU licenses held in FCC inventory may not sell in an auction, diminishing the potential availability of 5G service in these areas and the overall value of the 28 GHz band.

Moving to county-based licensing is also inconsistent with past Commission precedent. In past spectrum proceedings the FCC has provided incumbent licensees with greater flexibility (including mobility) without adopting smaller geographic licensing areas or more stringent build-out requirements.[8] In other cases where the FCC reallocated spectrum for mobile or flexible use, the Commission reduced the level of construction required in the markets or granted licensees more time to meet existing build-out requirements.[9] Indeed, imposing new, more stringent license obligations years after the licensed spectrum has been auctioned would be unfair to auction winners and interfere with their reasonable investment-backed expectations, raising serious concerns that such actions would be considered a regulatory taking.[10]

Partial Economic Area Conversion Proposal

For each of these reasons, Nextlink urged the Commission to maintain existing BTAs for 28 GHz licenses. Assuming, however, that the FCC decides to change the geographic license area for

[8] *See, e.g., Amendments to Parts 1, 2, 27 and 90 of the Commission's Rules to License Services in the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands,* Report and Order, 17 FCC Rcd 9980, 10010 ¶¶ 72-73 (2002).

[9] *See, e.g., Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band*, Report and Order and Second Report and Order, 25 FCC Rcd 11710 (2010), *recon*., *Order on Reconsideration*, 27 FCC Rcd 13651 (2012); *Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands*, Report and Order and Order of Proposed Modification, 27 FCC Rcd 16102 (2012).

[10] *See, e.g., Penn. Central Transp. Co. v. New York City*, 438 US 104, 124-25 (1978) (Courts will assess whether an agency action results in a regulatory taking by considering the following factors: (1) the economic impact of the regulation, (2) the extent to which the regulation interferes with distinct investment-backed expectations, and (3) the character of the government action.).

UMFU licenses issued for the 28 GHz band, Nextlink urged the FCC to issue these licenses based on Partial Economic Areas ("PEAs"). Although BTAs do not "nest" perfectly into PEAs, Nextlink's analysis shows substantial overlap between BTAs and PEAs, producing many full or "intact" PEAs for current licensees and the FCC's license inventory. As Nextlink has previously noted, current LMDS licenses could be converted into 225 fully intact PEAs, representing 55 percent of total PEAs and approximately 106 million POPs.[11] Of these 225 fully intact PEAs, the FCC would hold 125 PEAs (or 30 percent of the total number of PEAs), Nextlink would hold 44 PEAs, and other licensees would hold 56 PEAs.[12] The remaining 187 PEAs could be geographically partitioned into 426 license areas to reflect their current ownership (and 143 of these PEAs would be partitioned into only two parts). Using this approach, Nextlink's analysis indicates that: 118 of these PEAs would be partitioned between the FCC and one other licensee, 39 PEAs would be partitioned among the FCC and two or more licensees, and 30 PEAs would be partitioned among two or more licensees (but not the FCC).[13]

While some LMDS licenses would need to be geographically partitioned into smaller PEA segments to retain their current geography and population, the total number of 28 GHz UMFU licenses under this PEA conversion plan would remain substantially less than the proposed county-based licensing approach. Rather than splitting the LMDS A1 band into 3,221 county-based license areas,[14] under a PEA conversion plan the ultimate number of license areas could be as few as 651 in total.[15] Moreover, for the PEAs where only the FCC and one existing licensee currently hold the spectrum within the PEA, the Commission could adopt a bidding credit to incentivize the licensee to buy the remaining portion of the PEA in an auction, which could recreate as many as 118 additional, full PEA geographic area licenses (or 343 intact PEAs in total). The benefits of issuing 28 GHz UMFU licenses based on PEAs far outweigh the costs, resulting in harmonized license areas for all new 5G licenses.

Under this approach, the Commission would follow the same procedural steps it outlined in the *NPRM* for reissuing licenses based on counties, subdividing existing LMDS licenses on a PEA rather than a county basis.[16] In instances where an existing license holder's spectrum assets do not encompass an entire PEA, the FCC would geographically partition the PEA such that portions of the PEA are assigned to the existing licensee(s) or remain in FCC inventory for a future auction (if the area is not otherwise licensed to an entity). Multiple portions of the same PEA may be grouped into a larger portion when licenses in adjacent or nearby BTAs are held by the same licensee (or held in FCC inventory). And (as demonstrated previously), in many cases the FCC will be able to combine these groupings into complete PEAs.

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[11] *See Ex Parte* Letter from Michele C. Farquhar, Counsel to Nextlink Wireless, LLC and XO Communications, LLC to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177, *et al*. (filed June 8, 2016) ("*PEA Conversion Plan Ex Parte*").

[12] *See* attach. at 8.

[13] *Id.*

[14] This accounts for the 3,143 counties in the United States plus the 78 counties within the territory of Puerto Rico.

[15] *See* attach. at 7.

[16] *NPRM*, 30 FCC Rcd at 11913 ¶ 115.

There are other steps the FCC could take to facilitate this process and ease administration, both for existing license holders and for the Commission itself. For example, in addition to the bidding credit proposal set forth above, the Commission could adopt streamlined rules or incentives that would allow LMDS license holders to rationalize their spectrum holdings to form more contiguous, intact PEAs (either prior to or following the FCC's auction).

The Commission has the opportunity to harmonize the geographic licensing size for UMFU licenses with the license size adopted for 600 MHz spectrum, which is also expected to be used for some 5G services. Furthermore, to the extent the FCC adopts PEAs for 39 GHz licenses, implementing PEAs for 28 GHz UMFU licenses would create greater uniformity and harmonization of license areas among the 5G licenses. Because PEAs are similar in size to the current BTA licenses,[17] assigning 28 GHz UMFU licenses by PEAs and partitioned PEAs would help to mitigate the technical challenges and financial burdens of no longer issuing licenses based on BTAs.[18] For these reasons, Nextlink urges the Commission to issue 28 GHz UMFU licenses based on Nextlink's PEA conversion plan, should it decide not to maintain existing BTAs.

Need for Realignment of Fractured Portions of the LMDS Service Bands

Nextlink also expressed its support for including the A2 and A3 bands and the B block of the 28 GHz band in a flexible use plan for 5G.[19] The record shows that 5G can be deployed over bandwidths smaller than the 500 megahertz threshold the FCC has proposed for identifying new millimeter-wave bands for flexible use.[20] Nextlink noted that in many markets Nextlink is the licensee for both the A3 and B block spectrum and could aggregate 300 megahertz of spectrum at 31.0-31.3 GHz.

Further, Nextlink's current LMDS point-to-multipoint installations conform to the European Telecommunications Standards Institute (ETSI) standard band plan where the A1 and the A2 band are used as the uplink and downlink, respectively.[21] Most of Nextlink's lease customers utilize the same band plan, thereby potentially crossing two call signs with one installation. In addition, Nextlink respects the coordination issues with satellite providers in the A2 band and therefore can only use the band for downlink operations, further restricting the use of A2 if not paired with A1 in the same call sign. If the FCC separates the A1 band from the A2 and/or A3 bands, then new licensees would likely have to deploy co-located multipoint builds only in the A1 band to meet their build-out requirements because they will not have access to spectrum in the A2 band for uplink operations. If downlink operations are present in the A1 band, this could cause interference where the new licensee's A1 downlinks are co-channel with legacy A1 uplinks, leading to an inefficient use of spectrum. Moreover, as discussed below, fracturing the A1 and A2 bands will subject licensees who

[17] *See* attach. at 7.

[18] Nonetheless, the Commission should consider affording existing licensees regulatory relief from existing performance requirements.

[19] *See* Comments of XO Communications, LLC, GN Docket No. 14-177, *et al*. at 11-16 (filed Jan. 28, 2016); Reply Comments of XO Communications, LLC, GN Docket No. 14-177, *et al*. at 4-6 (filed Feb. 26, 2016).

[20] *See, e.g.*, Comments of Ericsson Inc., GN Docket No. 14-177, *et al*. at 37 (filed Jan. 15, 2015).

[21] *See NPRM*, 30 FCC Rcd at 11901 ¶ 67; 47 C.F.R. §101.1001(b)(2).

use these bands in tandem to conflicting performance requirements. Nextlink therefore encourages the FCC to maintain the A1/A2/A3 bands as a single call sign, as is the case today.

Fracturing the 28 GHz band will also increase the costs for Nextlink to obtain equipment that can operate using the A2 and A3 bands and the B block. The Commission previously acknowledged LMDS licensees' difficulties in getting access to equipment when it granted multiple LMDS licensees' applications for waivers and extensions of time to demonstrate substantial service in 2008.[22] Not reallocating the A2 and A3 bands and the B block for flexible use in a 5G band plan would trigger the same—if not worse—equipment challenges LMDS licensees faced in the past and impose extreme burdens on licensees without any corresponding benefits. It would be inefficient for manufacturers to build, and service providers to purchase and deploy, equipment that does not currently include these spectrum bands, only to turn around and remanufacture, repurchase and redeploy new equipment a year or two later after this spectrum is presumably allocated for flexible use. Similar to a "dig once" policy, the FCC should promote a "deploy once" policy for equipment that will ultimately use the 28 GHz band for 5G services.

Benefits of Uniform Performance Requirements

Finally, Nextlink urged the Commission to adopt reasonable performance requirements for new UMFU licenses. Numerous commenters opposed strict population-based performance requirements for UMFU licenses.[23] Because of millimeter-wave band spectrum's limited signal propagation, operators are likely to provide coverage to relatively small geographic areas. While population metrics may be appropriate for low-band spectrum below 3 GHz, this same paradigm would be extremely difficult for millimeter-wave spectrum bands. Millimeter-wave spectrum is likely to serve entirely different use cases than spectrum bands for which the FCC has adopted population-based performance metrics. A high proportion of millimeter-wave coverage will likely occur in areas where people work or visit, such as stadiums, industrial facilities and office parks, rather than where they live. Thus, population-based performance metrics would be inappropriate for millimeter-wave band spectrum such as 28 GHz.[24] Indeed, incumbent licensees who use the A1 and A2 bands for downlink and uplink fixed operations, respectively, would face conflicting performance requirements under the FCC's proposed rules. Licensees would be forced to achieve a population-based performance metric for the A1 band, but a substantial service showing for the A2 band. Rather than adopting conflicting and amorphous performance requirements based on the type of technology and services deployed, Nextlink recommends that the FCC instead adopt a safe harbor of one "installation" per license area for each of the bands.

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[22] *See Applications filed by Licensees in the Local Multipoint Distribution Service (LMDS) Seeking Waivers of Section 101.101 of the Commission's Rules and Extensions of Time to Construct and Demonstrate Substantial Service*, Memorandum Opinion and Order, 23 FCC Rcd 5894, 5905 ¶ 24 (WTB Apr. 11, 2008) ("We find that the LMDS licensees before us have demonstrated that they faced factors beyond their control, including difficulties in obtaining viable, affordable equipment, that warrant granting a limited extension of time to permit these licensees to continue to build out their licenses.").

[23] *See* Reply Comments of XO Communications, LLC, GN Docket No. 14-177, *et al*. at 9-11 (filed Feb. 26, 2016).

[24] *See NPRM*, 30 FCC Rcd at 11939 ¶ 207.

In the event the FCC reconfigures the geographic license areas for existing A1 band licensees, however, Nextlink concurred with staff that—at a minimum—the FCC should extend existing licensees' renewal dates, with licensees demonstrating substantial service as of the date of the extended license renewal term. As noted above, operators today use the A1 and A2 bands in tandem for uplink and downlink, respectively. These licensees will also face a hodgepodge of substantial service showings based on the different geographic license areas for the A1 band versus the A2 band. The FCC would exponentially compound the problem if licensees' substantial service showings varied temporally as well. The FCC should therefore align the renewal dates and substantial service deadlines for A1/A2/A3 band and B block licensees. 5G fixed and mobile standards are targeted for a 2019 completion, equipment development and production schedules will follow and the deployment of installations, covering multiple use cases, will continue throughout the next decade. Nextlink urges the FCC to harmonize the LMDS renewal dates with the anticipated deployment of operations under the new UMFU standards and maintain the precedent of 10 year renewals. The FCC should include such an extension in writing in its order modifying LMDS geographic license areas.

Pursuant to Section 1.1206(b) of the Commission's rules, I am filing this letter electronically in the above-referenced docket. Please contact me directly with any questions.

Respectfully submitted,

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Enclosure
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Blaise Scinto

Spectrum Frontiers:
Licensing Analysis

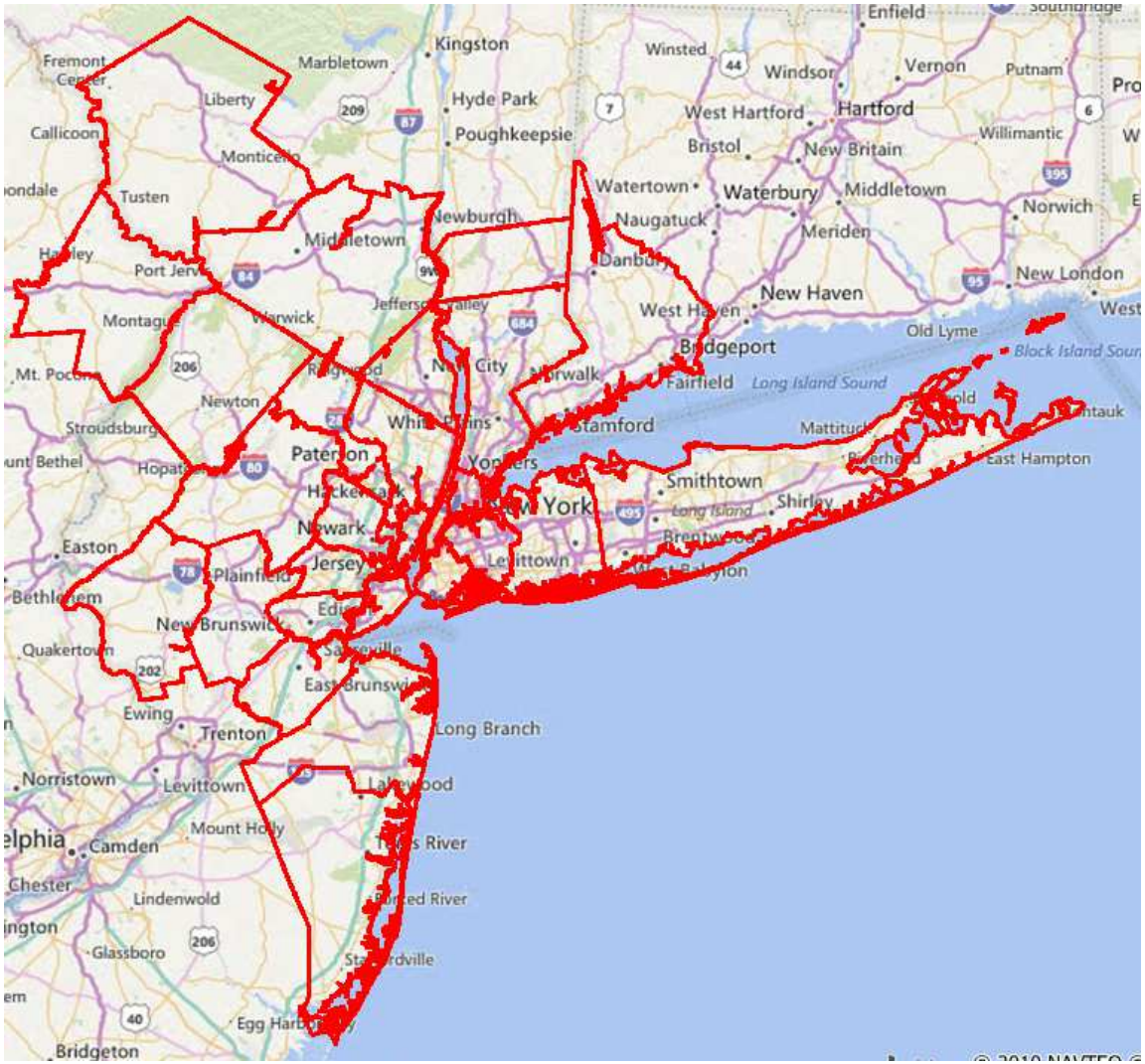
June 17, 2016

nextlink™

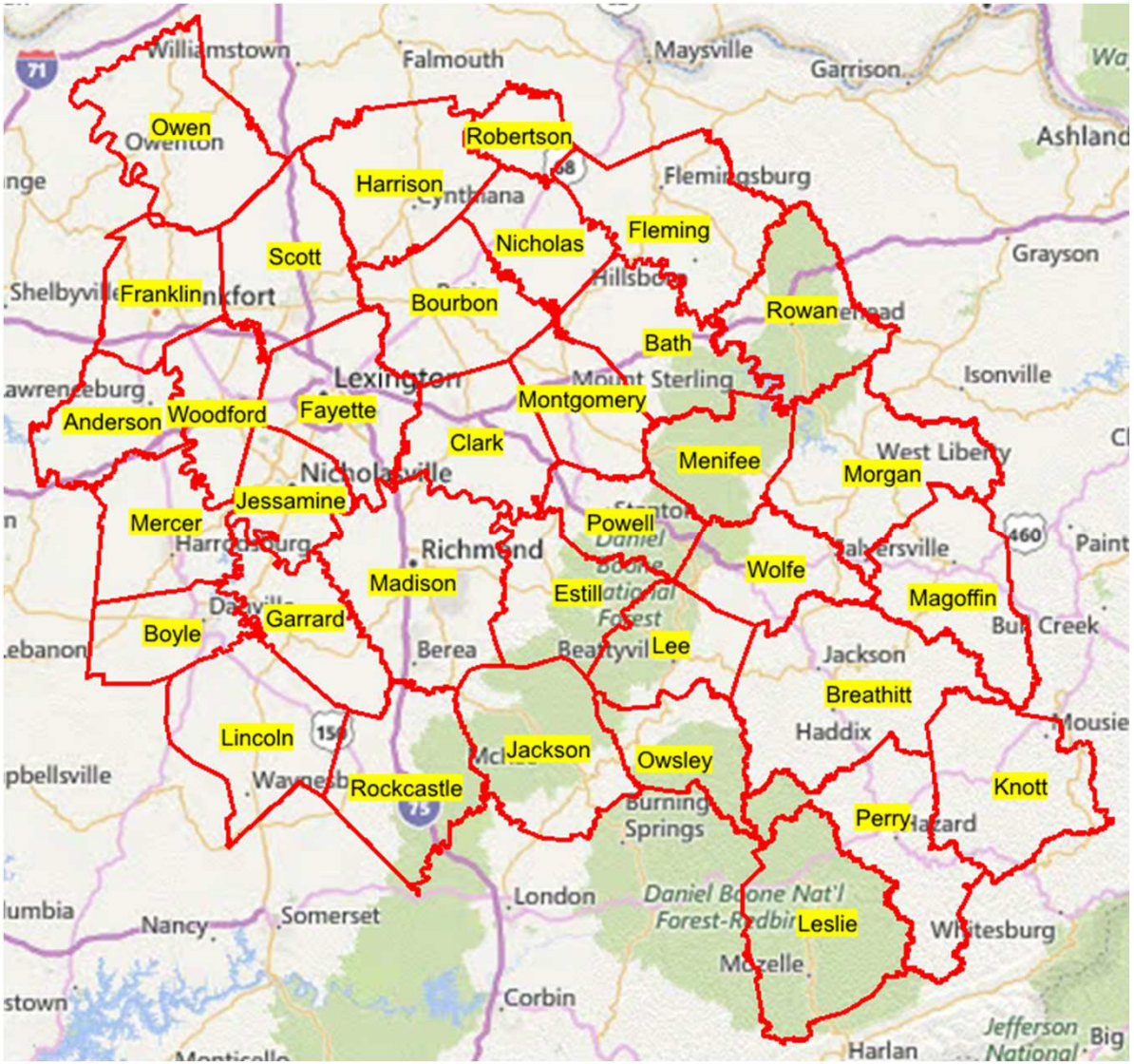
Los Angeles – 6 counties

1.8 people per sq mile

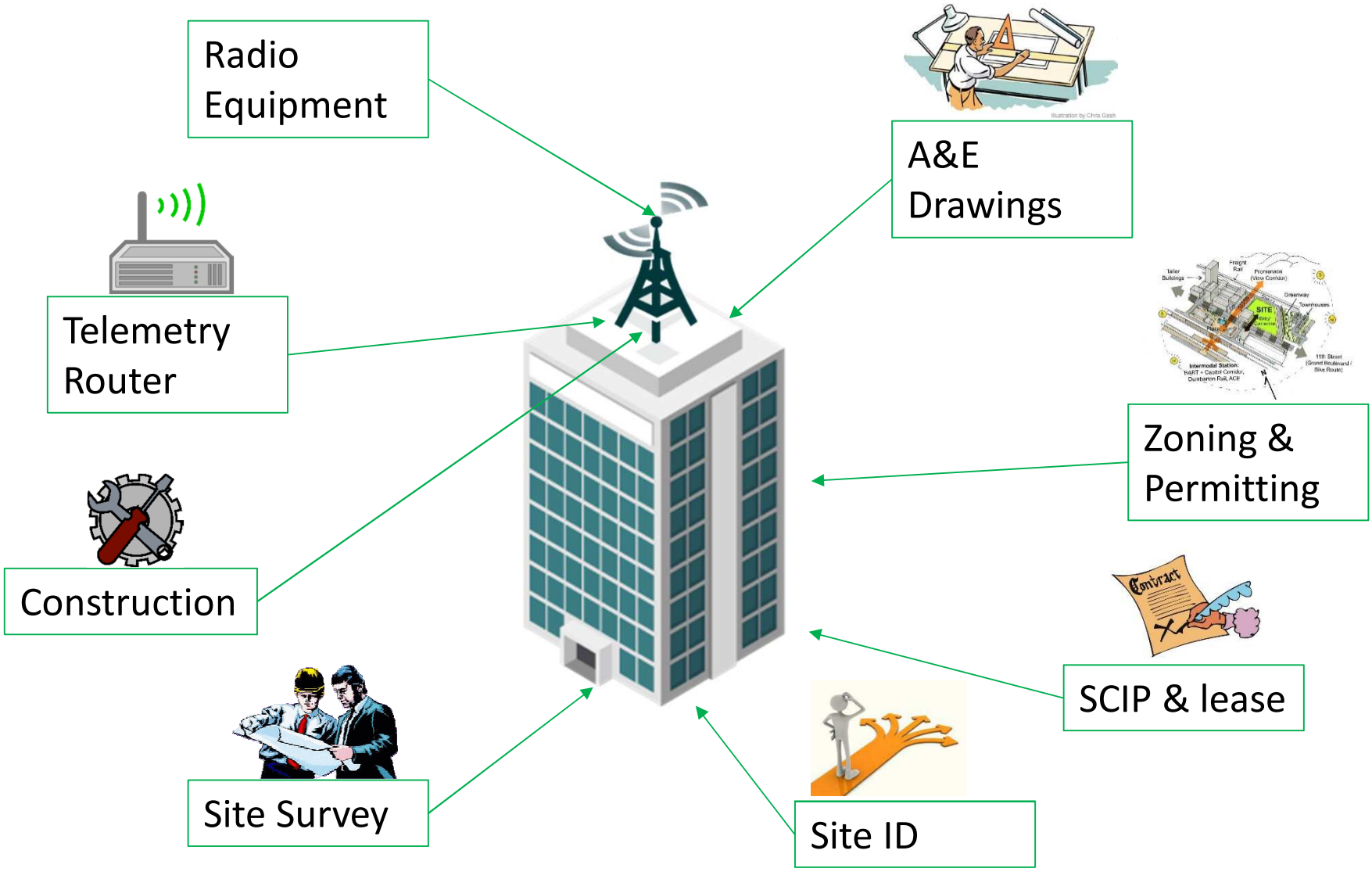
New York – 20 counties



Lexington – 35 counties



Typical Build – Expected CapEx

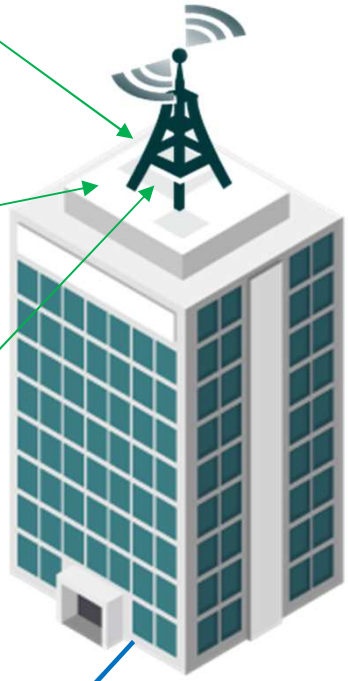


Typical Build – Expected OpEx

Maintenance

Annual Audit

Rent



Warehousing

Regulatory Filing & Counsel Fees

Access to Fiber (backhaul)

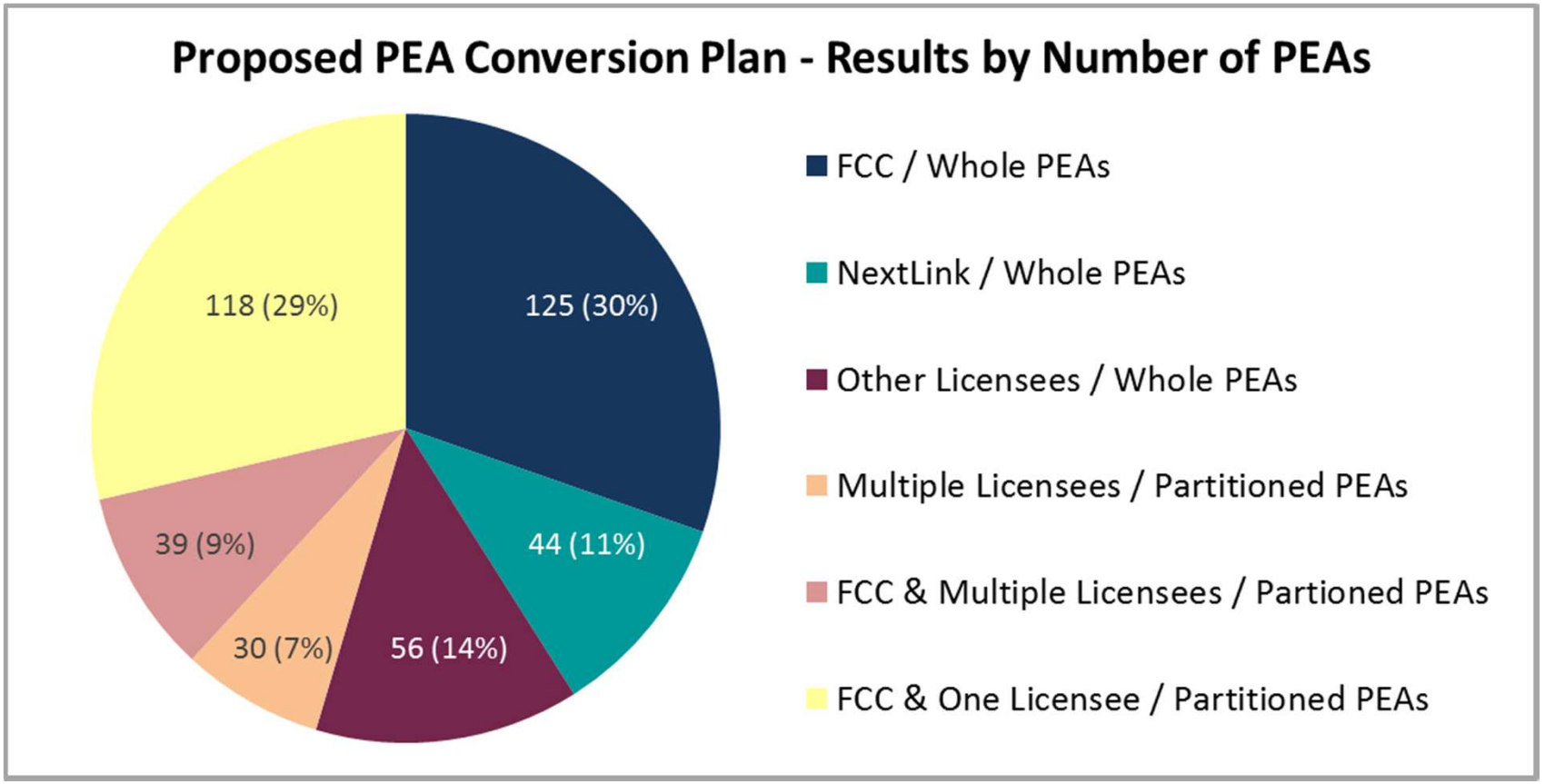
PEAs and Partitioned PEAs Versus Counties

	Basic Trading Areas (BTAs)	Counties (and county equivalents)	Partitioned PEAs	Partial Economic Areas (PEAs)
Number of License Areas	489*	3,221	651	412*
Number of Nextlink License Areas	93	767	153	n/a
Average Population Across Area	639,001+	97,011+	479,987+	750,231+
Median Population Across Area	228,660+	26,076+	155,675+	298,749+
Average Number of Counties per Area	6.59	n/a	4.95	7.82

*These figures do not include the territories of Guam, the U.S. Virgin Islands, American Samoa, the Northern Mariana Islands or the Gulf of Mexico

+Information based on 2010 United States Census Bureau data

License Areas Under PEA Conversion Plan



Map of PEAs/Partitioned PEAs